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EXAMINER

YANG, R

ART UNIT

PAPER NUMBER

2672

DATE MAILED:

01/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

SM

# Office Action Summary

Application No.

09/195,728

Applicant(s)

DRUCKER ET AL.

Examiner

Ryan R Yang

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-39 are pending in this application. Claims 1, 16, 27 and 34 are independent claims. This action is non-final.
2. The present title of the invention is "View Dependent Tiled Textures".

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-13, 15-24, 26-31 and 33-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strandberg (6,054,999).

As per claim 1, Strandberg discloses a computer-readable medium having stored thereon a tile data structure for a tile representing an image texture for tiled texture mapping, comprising:

plural tile data structures representing plural respective views of the image texture (Figure 1; 7, where the stored torso images are considered tiles).

5. As per claim 2, Strandberg demonstrated all elements as applied in the rejection of independent claim 1, supra.

As for the image texture are based upon oblique-parallel projections of the image texture, the method is one of the well known methods of perspective viewing.

6. As per claim 3, Strandberg demonstrated all elements as applied in the rejection of independent claim 1, supra, and further discloses the plural respective views correspond to a range of user viewing angles and each tile data structure corresponds to a segment in the range of user viewing angles ("If the movement revolution is determined to 240 positions per revolution and axis (=1.5 degrees) ", column 11, line 51-52).

7. As per claim 4, Strandberg demonstrated all elements as applied in the rejection of dependent claim 3, supra, and further discloses the range of user viewing angles are not equal ("it is not necessary for the respective segments of the graphic figure to have the same proportions", column 12, line 66-67.

8. As per claim 5, Strandberg demonstrated all elements as applied in the rejection of dependent claim 4, supra.

As for the viewing angles are with respect to a predetermined reference and the segments closest to the predetermined reference are smaller that the segments farthest from the predetermined reference orientation, it would have been obvious to have closer interval at near range to have a smoother transition.

9. As per claim 6, Strandberg demonstrated all elements as applied in the rejection of dependent claim 3, supra, and further discloses the segments in the range of user viewing angles are equal, column 11, line 51-60.

10. As per claim 7, Strandberg demonstrated all elements as applied in the rejection of dependent claim 3, supra.

As for the range of viewing angles extends over viewing angles of positive and negative magnitudes relative to a viewpoint position, it is obvious that one wants to cover the viewing angles to have a complete representation of the image.

11. As per claim 8, Strandberg demonstrated all elements as applied in the rejection of dependent claim 7, supra, and it well known (Officially Noted) that an angle in positive magnitude has an equivalent match in the negative magnitude.

12. As per claims 9-12, Strandberg demonstrated all elements as applied in the rejection of independent claim 1, supra, and the views are stored two dimensional (see Figure 2). One dimension is realized by holding either one of the dimension constant.

13. As per claim 13, Strandberg demonstrated all elements as applied in the rejection of independent claim 1, supra, and the image texture includes an outer face and the outer face is of the same dimensions in each of the plural respective views of the image texture ("the stored segment drawings are representative of different positions within the sphere of a performance", Figure 2 where the displayed pictures are the outer face of an images and they are all at the same dimension).

14. As per claim 15, Strandberg demonstrated all elements as applied in the rejection of independent claim 1, supra, and further discloses the plural respective views of the image texture are based upon manually formed

renderings of the image texture ("it may be more expedient to draw only one picture for each expression concerned", column 9, line 29-38).

15. As per claim 16, Strandberg discloses a computer method of applying a texture map to an image surface in a graphics image rendered on a computer display screen, comprising:

identifying a region of the image surface to which region the texture map is to be applied ("the drawings of the desired figure are scanned in as key drawings ...", column 11, line 66-67);

determining a viewing angle for the region (this step is inherent since the image data stored are related to space angle);

correlating the viewing angle with a texture map tile corresponding to the viewing angle ("to match the movement data of the actor with the movement data of the stored figure", column 12, line 13-14); and

rendering the texture map tile at the region on the computer display screen (Figure 1; 8).

16. As per claim 17, Strandberg demonstrated all elements as applied in the rejection of independent claim 16, supra, and further discloses the texture map tile corresponding to the viewing angle is one of plural predetermined texture map tiles stored in a computer memory ("information relating to other body segments, such as upper arm, lower arm, hands, etc., is stored", column 8, line 31-33 where the body parts are considered tiles).

17. As per claim 18, Strandberg demonstrated all elements as applied in the rejection of independent claim 16, supra, and it obvious that the texture map tile

retrieved should correspond to the viewing angle to have a correct representation of the image.

18. As per claim 19-23, Strandberg demonstrated all elements as applied in the rejection of independent claim 16, supra, and the viewing angle are two dimensional (as shown in Figure 2). One dimension is realized by holding either one of the two dimension constant.

19. As per claim 24, Strandberg demonstrated all elements as applied in the rejection of independent claim 16, supra, and as for the texture map tile corresponding to the viewing angle is of a predetermined tile structure and includes an oblique parallel projection the predetermined tile structure, each stored texture map is predetermined and the oblique parallel projection is one of the well known methods of perspective viewing.

20. As per claim 26, Strandberg demonstrated all elements as applied in the rejection of independent claim 16, supra, and further discloses the texture map tile corresponding to the viewing angle is of a predetermined tile structure and includes a manually formed renderings of the predetermined tile structure ("it may be more expedient to draw only one picture for each expression concerned", column 9, line 29-38).

21. As per claim 27, Strandberg discloses a method of generating a tile data structure in a computer readable medium representing an image texture for a tiled texture mapping, comprising:

determining plural selected viewing angles for viewing the image texture (Figure 1; M1, M2, M3 ...);

correlating each selected viewing angle to a predetermined range of viewing angles that includes the selected viewing angle ("to match the movement data of the actor with the movement data of the stored figure", column 12, line 13-14); and

forming for each of the selected viewing angles a data structure that includes a projection of the image texture relative to the selected viewing angles ("The thus obtained image parts in a selected sequence and then presents the assemblage on one or more display units, such as a monitor 8, or on a projection area of a film", column 10, line 38-41).

22. As per claim 28, Strandberg demonstrated all elements as applied in the rejection of independent claim 27, supra, and the image texture includes a front surface with predetermined dimensions and the projections of the image texture relative to the selected viewing angles maintains the predetermined dimensions of the front surface of the image texture (see Figure 2 where the images are semblance of image texture and they all are of the same dimension).

23. As per claim 29, Strandberg demonstrated all elements as applied in the rejection of independent claim 27, supra, and as for the image texture are based upon oblique-parallel projections of the image texture, the method is one of the well known methods of perspective viewing.

24. As per claims 30-31, Strandberg demonstrated all elements as applied in the rejection of independent claim 27, supra, and the viewing angle are two dimensional (as shown in Figure 2). One dimension is realized by holding either one of the two dimension constant.



25. Claims 14, 25 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strandberg as applied to claims 1, 16 and 27 above, and further in view of Cosatto et al. (5,995,119).

As per claims 14, 25 and 32, Strandberg demonstrated all elements as applied in the rejection of independent claims 1, 16 and 27, respectively, supra.

It is noted that Strandberg does not explicitly disclose using morphing technique to generate respective view, however, this is known in the art as taught by Cosatto et al., hereinafter Cosatto, Cosatto discloses an image generating method in which morphing art used, column 2, line 50-65.

Thus It would have been obvious to one of ordinary in the art at the time the invention was made to incorporate the teaching of Cosatto into Strandberg because it makes generating in between image possible.

26. As per claim 33, Strandberg demonstrated all elements as applied in the rejection of independent claim 27, supra, and further discloses the plural respective views of the image texture are based upon manually formed renderings of the image texture ("it may be more expedient to draw only one picture for each expression concerned", column 9, line 29-38).

27. As per claims 34-39, since Strandberg's system is comprised of computer (see Figure 1, 4), it is obvious that the system is run by software instructions, and therefore are identically rejected to claims 16-25 as set forth supra.

### ***Conclusion***

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28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


***Inquiries***

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R Yang whose telephone number is (703) 308-6133. The examiner can normally be reached on M-F 9:30AM-7:00PM Second Wed Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6606 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Ryan Yang  
January 4, 2001

  
JEFFERY BRIER  
PRIMARY EXAMINER